CLAIMS

1 An isolated nucleotide sequence encoding a mammalian EDG-5 receptor or biologically active fragment thereof.

2. The isolated nucleotide sequence of claim 1 encoding a murine EDG-5 receptor or biologically active fragment thereof.

3. The isolated nucleotide sequence of claim 2 encoding a murine EDG-5 receptor of Figure 1B or biologically active fragment thereof.

4. The isolated nucleotide sequence of claim 1 encoding a human EDG-5 receptor or biologically active fragment thereof.

5. The isolated nucleotide sequence of claim 1 wherein the biologically active fragment is activated by LPA.

6. An isolated nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence comprising nucleotides 36-1907 of SEQ. ID NO: 12

(b) the nucleotide sequence of Figure 3B;

(c) the nucleotide sequence of Figure 3C;

(d) a nucleotide sequence comprising at least about 70% sequence identity to (a), (b) or (c) and which hybridizes under stringent conditions to the nucleotide sequence of (a), (b) or (c), respectively; and

(e) the nucleotide sequence which encodes the amino acid sequence of Figure 4A, 4B or 4C.

7. The isolated nucleotide sequence of Claim 6 wherein the nucleotide sequence is selected from the group consisting of:

(1) the nucleotide sequence of (a), (b), (c) or (e) of claim 6; and

(2) the nucleotide sequence of (d) of claim 6 wherein the nucleotide sequence has at least about 80-85% sequence identity to the nucleotide sequence of (a), (b) or (c) of claim 6.

8. The isolated nucleotide sequence of Claim 6 wherein the nucleotide sequence is selected the group consisting of:

(1) the nucleotide sequence of (a), (b), (c) or (e) of claim 6; and

(2) the nucleotide sequence of (d) of claim 6 wherein the nucleotide sequence has at least about 95% sequence identity to the nucleotide sequence of (a), (b) or (c) of claim 6.

9. The complement of the nucleotide sequence of Claim 8.

10. An expression vector comprising the nucleotide sequence of Claim 8.

11. A host cell comprising the expression vector of Claim 10.

12. The isolated and purified amino acid sequence for the HEDG-5 receptor encoded by the nucleotide sequence of claim 8.

13. The isolated and purified amino acid sequence of claim 12 comprising the amino acid sequence of SEQ. ID NO:13 (Figure 4A), Figure 4B or Figure 4C or a biological acitve portion thereof.

14. The isolated nucleotide sequence of Claim 6 wherein the nucleotide sequence is selected from the group consisting of the nucleotide sequence which encodes the amino acid sequence of SEQ ID NO: 13 (Figure 4A), Figure 4B and Figure 4C.

15. A hybridization probe of the nucleotide sequence of Claim 5.

16. A method of screening compounds to identify HEDG-5 ligands comprising the steps of:

(a) culturing cells which express the HEDG-5 receptor or with a membrane preparation obtained therefrom; and

(b) contacting said compound with said cells or said membrane preparation; and

(c) determining whether binding between the HEDG-5 receptor and the candidate ligand has occurred.

17. A HEDG-5 ligand identified by the method of claim 16.

18. A method of screening compounds to identify HEDG-5 antagonists comprising the steps of:

(a) culturing cells which express the HEDG-5 receptor or with a membrane preparation obtained therefrom;

(b) contacting said cells or said membrane preparation with a mixture comprising an agonist and said compound to be tested for antagonist activity at said receptor; and

(3) determining the degree of antagonist activity by measuring a response indicative of the degree of binding between said agonist and said receptor and comparing this measured response with a standard response for binding between said agonist and said receptor absent the antagonist.

19. The method of claim 18 wherein said agonist is LPA.

20. An antagonist identified by the method of claim 18.